

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A process for producing kraft pulp, which comprises: (A) a cooking step of treating raw chips with a cooking liquor containing sodium hydroxide and sodium sulfide as the main components to convert the chips into pulp; (B) a pulp washing step of washing the resultant pulp, and separating and recovering a black liquor solution containing sodium carbonate and sodium sulfate, which are by-products of the cooking liquor formed during the cooking process; (C) a pulp bleaching step of treating the pulp with a bleaching agent in the presence of alkali; (D) a black liquor solution concentrating step of concentrating the black liquor solution separated and recovered in the pulp washing step (B); (E) a black liquor solution combustion step of burning the concentrated black liquor solution to reduce the sodium sulfate into sodium sulfide and further recovering ashes containing sodium sulfate and sodium carbonate from a combustion exhaust gas generated therein by a dust collector; and

(F) a causticization step of treating a green liquor solution as an aqueous solution of a smelted product recovered from the combustion step with calcium oxide to reduce sodium carbonate contained in the green liquor solution to sodium hydroxide, thereby obtaining a white liquor solution, said white liquor solution recovered in the causticization step (F) being recycled to the cooking step (A);

said process further comprising;

(G) a potassium ion removal step of preparing an aqueous solution containing the ashes captured and recovered from the combustion exhaust gas generated in the black liquor solution combustion step (E) by the dust collector and flowing this aqueous solution through a packed

bed filled with a Na-type cation exchange resin to adsorb and remove potassium ions contained in the aqueous solution; and

(H) a regeneration step consisting essentially of treating the cation exchange resin used in the potassium ion removal step (G) with an aqueous sodium hydroxide solution to ~~regenerate~~ regenerate the cation exchange resin,

wherein a fraction recovered from the potassium ion removal step (G), which contains a large amount of sodium sulfate and sodium carbonate, is recycled to the black liquor solution concentrating step (D), and a sodium hydroxide effluent recovered from the regeneration step (H) is recycled to the bleaching step (C).